

# **APPENDIX A**

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## **Inventory and Monitoring**



## INVENTORY AND MONITORING

During the life of this plan, inventory and monitoring would be used as a management tool to determine the status of the various resources within the area, to ensure compliance with plan decisions, to measure the effectiveness of the decisions, to ensure compliance with stipulations that are attached to land use authorizations, and to evaluate the effectiveness of the stipulations at accomplishing the purposes for which they are required. A monitoring program to accomplish these purposes would be developed and implemented. The most attention would be given to those activities that have the highest potential for environmental impact and those that are the most controversial. The results of these monitoring activities would be produced in reports. Any monitoring program that is developed would be done in cooperation with the State of Alaska, Department of Fish and Game; the U.S. Department of the Interior, Fish and Wildlife Service; and the North Slope Borough (NSB), as appropriate.

The following discussion provides the primary objectives for and brief descriptions of the types of inventory and monitoring that could occur for the surface resources the Bureau of Land Management (BLM) manages within the planning area.

**1. Cultural:** Inventory and monitoring of cultural resources would be conducted primarily to ensure that all sites eligible for the National Register of Historic Places (National Register) and other significant sites are preserved. Traditional knowledge is an important factor in the identification and interpretation of these sites. Inventories related to development activities would focus on specific locations, while inventories related to building a database of known sites would focus on more general areas—usually those expected to contain the highest numbers of cultural resources, such as good viewpoints, river banks, and game-concentration points. After a site is discovered through inventory/survey, it is evaluated against criteria for nomination to the National Register to determine its level of significance. Many of these sites would be useful in research, education, and interpretation to preserve the cultural heritage of North Slope residents.

Local concern over the identification and protection of cultural and historic places was exemplified in the comments made by Mr. Leonard Lampe at the public scoping meeting held in Nuiqsut.

**2. Lands:** The primary objective of an inventory and monitoring program for lands is locating through survey and subsequently conveying the Native allotments and other entitlements that exist under the Alaska Native Claims Settlement Act. The second objective is establishing the location and ownership of existing structures, primarily cabins, within the planning area. This information will be used to evaluate potential conflicts between existing land uses and potential oil and gas exploration and development. This information will also be used in studies and efforts by the BLM, working with the NSB, to address those structures that are on Federal public lands without authorization from the BLM.

**3. Fish:** Inventory and monitoring of fish would establish baseline information of fish populations, when necessary. A cooperative effort between agencies and disciplines to establish an issue-based, long-term monitoring program would be undertaken for activities where oil and gas exploration and development occur. This would include monitoring the effectiveness of mitigating measures through limnological, biological, and physical habitat studies. Monitoring of public-participation recreational and subsistence fisheries would be done. See the subsistence discussion in paragraph 7 for a discussion of how fish and subsistence inventory and monitoring are related.

**4. Hazardous Materials:** The BLM would conduct and maintain an inventory of lands to identify currently unknown hazardous materials sites. Research would be conducted to identify locations of past spills or dumps. Record searches and interviews with local residents and government personnel would be conducted. During oil and gas exploration and development, BLM would monitor activities to ensure compliance with permit requirements.

**5. Paleontology:** Inventory and monitoring of paleontological resources would be conducted primarily to ensure that all significant sites are preserved. Inventories related to development activities

would focus on specific locations, while inventories related to building a database of known sites would focus on more general areas, usually those along the Colville and Ikpiuk rivers where known concentrations of paleontological specimens exist. After a site is discovered through inventory/survey, it is evaluated to determine its level of importance. Many sites would be useful in research, education, and interpretation to preserve the cultural heritage of North Slope residents.

**6. Recreation:** Commercial recreational use will be monitored for adherence to permit stipulations. The BLM also will monitor general recreation use that may occur within the planning area and on the adjacent rivers and sites where BLM has management jurisdiction. Monitoring will focus on both the impacts of recreation on other surface resources and the effects of activities, such as oil and gas exploration and development, on recreational values. As part of the monitoring program, BLM may conduct visitor-use surveys to ascertain what issues or concerns users of the area have.

**7. Subsistence:** Inventory and monitoring would assist in accomplishing the goal of conserving healthy populations of fish and wildlife resources that are important for subsistence purposes. Inventory-based data would be collected for caribou, moose, fish, furbearers, and various waterfowl. Incidental sightings of muskoxen and grizzly bears would provide data on these species. Of primary interest would be data on population trends and distributions for all species and sex and age composition for caribou and moose. Gaining an understanding of the relationship of species to their habitat and the amount of habitat needed for individuals or breeding pairs also would be very important.

For many residents of the North Slope, subsistence is the most important issue addressed in this document; and concern about the possible effects of the management actions being considered in this document was a consistent theme during public meetings. One major recommendation that came out of a subsistence workshop panel held in Barrow and Nuiqsut as part of the planning process was the development of a subsistence-monitoring program. The approach to inventory described here is a major part of that program. Under alternatives B through E, the BLM will work with the Subsistence Advisory Panel and the NSB to develop a program to monitor the effects of oil and gas development on subsistence users.

**8. Vegetation:** Inventory and monitoring are important strategies in meeting the objective of identifying key habitats for various wildlife species, including waterfowl, and conserving populations of rare plant species. The BLM soon will complete a digital land-cover classification of the study area. This database will be analyzed in conjunction with other data on observed occurrence of wildlife species and known rare plant locations to identify correlations that may exist. This information will then be used to identify critical habitats, potential habitat expansion areas, or areas that are likely to sustain rare plants. These areas can then be sampled to determine the validity of the correlations and interpretations. Monitoring of vegetation, either through remote sensing or on-the-ground studies, would be conducted to detect any change over time. Site-specific surveys to locate populations of rare plants would occur ahead of any surface development.

**9. Water Resources:** Inventory and monitoring would help to provide data that are necessary to minimize undue and unnecessary degradation to water resources within the planning area and adjacent watershed. Inventories would identify the water-resource availability and requirements for the planning area and adjacent watersheds. Hydrology and limnology will be correlated to critical aquatic habitat areas for fisheries and waterfowl. Both fieldwork and Geographic Information System mapping would be necessary. Field studies would take the form of instream flow and stream gaging in high-resource-value areas, and the causes of change in water quality would be identified when possible.

**10. Well site Management:** Inventory and evaluation of previously drilled oil and gas exploration wells would determine whether they should be plugged or left open to support ongoing research programs. Geographic Positioning System locations are needed along with records of the location of wells in relation to significant physiographic and human structures; see Section III.A.1.f of this environmental impact statement.

**11. Wildlife:** Inventorying and monitoring species are essential to managing lands to

maintain healthy wildlife populations. Federal, State, and NSB agencies focus their separate and joint inventory work in the planning area on certain species based on the agencies' missions and the results of public interest. Ongoing inventories in which BLM is a participant include caribou calving; composition and movement of the Teshekpuk Lake herd, raptor breeding along the Colville River, and breeding land birds in the Umiat area. Funding permitting, BLM might participate in additional future inventorying and monitoring of population demographics of spectacled and Steller's eiders, moose, and muskoxen. See the subsistence discussion in paragraph 7 above for a discussion of how fish and subsistence inventory and monitoring are related.

